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SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)

B.Tech III Year I Semester Regular Examinations Feb-2021

SOFTWARE ENGINEERING & TESTING

(Computer Science & Information Technology)

Time: 3 hours

Max. Marks: 60

PART-A

(Answer all the Questions 5 x 2 = 10 Marks)

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|---|---|-----------------------------------------------------------------|----|
| 1 | a | What do you understand by term software development life cycle? | 2M |
| | b | What is static multi variable model? | 2M |
| | c | Define cohesion and coupling. | 2M |
| | d | Define acceptance testing. | 2M |
| | e | Differentiate between re-engineering and new development | 2M |

PART-B

(Answer all Five Units 5 x 10 = 50 Marks)

UNIT-I

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|---|---|--------------------------------------------------------------------------------------------------|----|
| 2 | a | Compare the waterfall model and the spiral model of software development. | 5M |
| | b | Is software metrics required in software engineering? Why do we really need metrics in software? | 5M |

OR

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|---|---|------------------------------------------------------------------------------------------------------------------|----|
| 3 | a | List the process maturity levels in SEI's CMM. Explain each level. | 5M |
| | b | Define Software metrics. Classify software metrics and Explain advantages and disadvantages of software metrics. | 5M |

UNIT-II

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|---|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| 4 | a | List the characteristics of good SRS document and their requirements. | 5M |
| | b | A project size of 300 KLOC is to be developed. Software development team has average experience on similar type of projects. The project schedule is not very tight. Calculate the effort, development time, average staff size and productivity of the project. | 5M |

OR

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|---|---|--------------------------------------------------------------------------------------------------------------------------------|----|
| 5 | a | Give the steps involved in initiating requirements engineering | 5M |
| | b | Model a Dataflow diagram for a "Library Management System". State and explain the functional requirements you are considering. | 5M |

UNIT-III

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|---|---|---------------------------------------------------------------------------------------------------------|----|
| 6 | a | Discuss the objectives of software design. How do we transform an informal design to a detailed design? | 5M |
| | b | If a module has logical cohesion, what kind of coupling is this module likely to have with others? | 5M |

OR

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|---|---|---------------------------------------------------------------------------------------------------------|----|
| 7 | a | Discuss the objectives of software design. How do we transform an informal design to a detailed design? | 5M |
| | b | Describe the various strategies of design. Which design strategy is most popular and practical? | 5M |

UNIT-IV

- 8 a Differentiate between Functional & structural testing 5M
b Consider a program for the determination of the nature of roots of a quadratic equation. Its input is a triple of positive integers (say a,b,c) and values may be from interval [0,100]. The program output may have one of the following words. [Not a quadratic equation; Real roots; Imaginary roots; Equal roots] Identify the equivalence class test cases for output and input domains. 5M

OR

- 9 a Explain the boundary value analysis testing techniques with the help of an example. 5M
b Summarize an effect graphing testing technique. 5M

UNIT-V

- 10 List out system documentation and explain their purpose. 10M

OR

- 11 a What are the appropriate reverse engineering tools? Discuss any two tools in detail. 5M
b What is reverse engineering? Discuss levels of reverse engineering 5M

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